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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,344	04/14/2005	Kazushige Ohno	258047US90PCT	8363

  

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EXAMINER	
MILLER HARRIS, AMBER R	

  

ART UNIT	PAPER NUMBER
1743	

  

NOTIFICATION DATE	DELIVERY MODE
10/02/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

**Application No.**

10/510,344

**Applicant(s)**

OHNO, KAZUSHIGE

**Examiner**

Amber Miller-Harris

**Art Unit**

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :04/30/2007, 04/19/2006, 03/08/2005, 02/22/2005, 01/05/2005, 10/06/2004.

## DETAILED ACTION

### *Claim Objections*

Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 2, includes the range  $F\alpha \times L < 30$  which is not within the range of the previous claim.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162.

Regarding claim 1, the Ichikawa et al. reference discloses a honeycomb filter for purifying exhaust gases which has a structure in which: a columnar body made of porous ceramic comprises a number of through holes, said through holes being placed in parallel with one another in the length direction with wall portion interposed there between; predetermined through holes of said through holes are filled with plugs at one end of said columnar body, while the through holes that have not been filled with said plugs at said one end are filled with plugs at the other end of said columnar body (figure 4, object 1, and column 1, lines 19-32); a part or all of said wall portion functions as a filter for collecting particulates and a bending strength  $F\alpha$  (MPa) of said honeycomb filter of 12 Mpa (Table 1). The reference does not disclose a bending strength  $F\alpha$  (MPa) of said honeycomb filter for purifying exhaust gases and a length  $L$  (mm) of said plug in the length direction of the through hole satisfy the relationship of  $F\alpha \times L \geq 30$ .

The Pitcher, Jr. reference discloses the plug lengths of 9.5-13mm (column 9, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include the plug lengths of 9.5-13mm and therefore a bending strength  $F\alpha$  (MPa) of said honeycomb filter for purifying exhaust gases and a length  $L$  (mm) of said plug in the length direction of the through hole satisfy the relationship of  $F\alpha \times L \geq 30$  (Pitcher, Jr. column 9, lines 24-27) because this allows the filter to have the ability to block specific passages and therefore filter the gas.

For claim 2, the Ichikawa et al. reference discloses a bending strength  $F\alpha$  (MPa) of said honeycomb filter of 12 Mpa (Table 1). The reference does not disclose a bending strength  $F\alpha$  (MPa) of said honeycomb filter for purifying exhaust gases and a length  $L$  (mm) of said plug in the length direction of the through hole satisfy the relationship of  $F\alpha \times L \geq 200$ .

The Pitcher, Jr. reference discloses the plug lengths of 9.5-13mm (column 9, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include the plug lengths of 9.5-13mm and therefore a bending strength  $F\alpha$  (MPa) of said honeycomb filter for purifying exhaust gases and a length  $L$  (mm) of said plug in the length direction of the through hole satisfy the relationship of  $F\alpha \times L \geq 200$  (Pitcher, Jr. column 9, lines 24-27) because this allows the filter to have the ability to block specific passages and therefore filter the gas.

For claim 3, the Ichikawa et al. reference discloses a catalyst being attached thereon (column 7, lines 58-60).

For claim 6, the Ichikawa et al. reference discloses a catalyst being attached thereon (column 7, lines 58-60).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 1 above, and further in view of Shimoda et al. US 5,725,618.

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For claim 4, the Ichikawa et al reference does not disclose collected and accumulated fine particles being removed by a back washing process using a gas flow.

The Shimoda et al. reference discloses collected and accumulated fine particles being removed by a back washing process using a gas flow (column 2, lines 41-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by a back washing process using a gas flow (Shimoda et al. column 2, lines 41-52) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 1 above, and further in view of Merry US 5,171,341.

For claim 5, the Ichikawa et al. reference does not disclose collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein.

The Merry reference discloses collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (column 9, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by heating exhaust gases and allowing

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the heated gases to flow therein (Merry, column 9, lines 1-5) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 2 above, and further in view of Shimoda et al. US 5,725,618.

For claim 7, the Ichikawa et al reference does not disclose collected and accumulated fine particles being removed by a back washing process using a gas flow.

The Shimoda et al. reference discloses collected and accumulated fine particles being removed by a back washing process using a gas flow (column 2, lines 41-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by a back washing process using a gas flow (Shimoda et al. column 2, lines 41-52) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 3 above, and further in view of Shimoda et al. US 5,725,618.

For claim 8, the Ichikawa et al reference does not disclose collected and accumulated fine particles being removed by a back washing process using a gas flow.



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The Shimoda et al. reference discloses collected and accumulated fine particles being removed by a back washing process using a gas flow (column 2, lines 41-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by a back washing process using a gas flow (Shimoda et al. column 2, lines 41-52) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 6 above, and further in view of Shimoda et al. US 5,725,618.

For claim 9, the Ichikawa et al reference does not disclose collected and accumulated fine particles being removed by a back washing process using a gas flow.

The Shimoda et al. reference discloses collected and accumulated fine particles being removed by a back washing process using a gas flow (column 2, lines 41-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by a back washing process using a gas flow (Shimoda et al. column 2, lines 41-52) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

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Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 2 above, and further in view of Merry US 5,171,341.

For claim 10, the Ichikawa et al. reference does not disclose collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein.

The Merry reference discloses collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (column 9, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (Merry, column 9, lines 1-5) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 3 above, and further in view of Merry US 5,171,341.

For claim 11, the Ichikawa et al. reference does not disclose collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein.

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The Merry reference discloses collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (column 9, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (Merry, column 9, lines 1-5) because this prevents the particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. US 6984253 in view of Pitcher, Jr. US 4,329,162 as applied to claim 6 above, and further in view of Merry US 5,171,341.

For claim 12, the Ichikawa et al. reference does not disclose collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein.

The Merry reference discloses collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (column 9, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ichikawa et al. reference to include collected and accumulated fine particles being removed by heating exhaust gases and allowing the heated gases to flow therein (Merry, column 9, lines 1-5) because this prevents the

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particulate filter from being clogged with accumulated particulates and therefore reducing the exhaust's resistance.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amber Miller-Harris whose telephone number is (571) 270-3149. The examiner can normally be reached on Mon-Thur (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AH

  
WALTER D. GRIFFIN  
SUPERVISORY PATENT EXAMINER